REMARKS

Reconsideration and allowance of the subject application in view the foregoing amendments and the following remarks is respectfully requested.

Claims 1-31 remain pending in this application. New claims 32-36 have been added.

Claims 1-29 are rejected under 35 USC 103 (a) as being unpatentable over King in view of McBurney. Applicant respectfully traverses this rejection.

Regarding King, this patent fundamentally differs from the present invention in that the source of the data bit stream and timing information is used to aid the GPS signal. Using aiding information (data bit stream and timing information) to increase sensitivity of GPS signal acquisition/tracking has been known and discussed for a long period of time and is not the key point of the present invention. The present invention is based on obtaining this information by having the autonomous GPS receiver construct the current data bit streams based on its knowledge of previously transmitted bit streams and the GPS signal structure itself. Traditionally all methods of GPS aiding (including King) use a wireless data link and a reference station to provide this information in real time.

In King, all references to the data bits used are to data received from a reference station over a wireless datalink. For example, paragraph 23 is cited as a case of storing data as is called out in the present invention. The paragraph, however, explicitly states "In particular, information transmitted to the wireless communications receiver includes time-tagged GPS information such as which satellites are visible at the CRS, and their associated Doppler and code phase." Additionally, King only reconstructs data bits in paragraph 38, for the purpose of extending the coherent integration period beyond 20ms. The key part of the present invention is using old information locally obtained by the autonomous GPS receiver to construct current data bit streams that can be used to allow long integration of GPS signals.

Further, King, in paragraph 38, Doppler and phase code are periodically received not almanac and ephemeris information as recited in claims 10, 11, 12, 13, 14, 24, 25, 26 and 27.

The Examiner concedes that King fails to disclose the use of GPS parity algorithms. Further, McBurney does not overcome the deficiencies discussed above with respect to King.

Also, the Examiner has not pointed to any suggestion in either King or McBurney for making this combination. The statement that it would have been obvious to include GPS parity algorithms to implement the method of King in order to reproduce the GPS signal, which includes parity bits is using hindsight which is clearly improper.

For at least these reasons the obviousness rejection of claims 1-29 should be withdrawn.

Claims 1, 3, 6-8, 14, 22-23, and 30-31 are rejected under 35 USC 103(a) as being unpatentable over Akopian in view of McBurney. Applicant respectfully traverses this rejection.

Akopian is different from the present invention in that the receiver receives a reconstructed signal from the base station whereas in the present invention all the processing is done by the mobile receiver. This feature has been emphasized in new claims 32-36.

Further, claims 1, 15, 22 and 28 require coherently integrating the received GPS signal over the time period corresponding to the reconstructed data bits to obtain a GPS pseudo-range measurement and determining the GPS receiver position using the generated, synchronized pseudo-range measurement and the ephemeris information received over the datalink. In Akopian, this is not performed. Further, McBurney does not overcome the deficiencies of Akopian. Also, the Examiner has not pointed to any suggestion in either Akopian or McBurney for making this combination. The statement that it would have been obvious to include GPS parity algorithms to implement the method of Akopian in order to reproduce the GPS signal, which includes parity bits is using hindsight which is clearly improper.

For at least these reasons, claims 1, 3, 6-8, 14, 22-23, 30-31 and 32-36 should be allowed and the obvious rejection should be withdrawn.

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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